SCALING WORKSHOP

Oak Ridge
National Laboratory
Oak Ridge, Tennessee

July 30 - August 1, 2007

SCALING TO PETAFLOPS AT NCCS LCF

National Center for Computational Sciences

Monday, July 30

Welcome, Greetings, etc. - Doug Kothe, NCCS Director of Science

Architecture Review of 250TF and 1000TF Cray Systems
- Node architecture and interconnect - John Levesque, Cray Inc.
- Multi-core Sockets - Brian Waldecker, AMD
- Inter-connect changes - Howard Pritchard, Cray Inc.

Projecting from Today's Application to Larger Processor Runs - John Levesque, Cray Inc.

Case Study: Scaling Application to 1000's of Cores - Speaker(s) TBA

Hands-On Workshop
The hands-on workshop sessions will be devoted to having NCCS/Cray staff working closely with the attendees applications:
- Characterizing application bottlenecks using Cray performance tools
- Obtaining the best performance out of existing implementations
- Identifying alternative methods, algorithms, and infrastructure for better scaling

Tuesday, July 31

Projecting from Today's Application to Larger Processor Runs *(cont'd)*
- Scaling node performance and communication bottlenecks - Jim Schwarzmeier, Cray Inc.

Software for 250TF and 1000TF Cray Systems
- OpenMP and Pthreads on the node - Ricky Kendall, NCCS
- CAF and UPC - Nathan Wichmann, Cray Inc.

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Wednesday, August 1

Lustre - Lustre Center of Excellence

Designing a scalable application
- Applications that do not scale - Trey White, NCCS
- Using scalable solvers - Adrian Tate, Cray Inc.
- Using Lustre Effectively - Mark Fahey, NCCS

Workshop Wrap-Up: Finalizing Statistics and Summarizing Improvments

Final Hands-On Workshop Session
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One Bethel Valley Road, Oak Ridge, Tennessee 37831

For registration and complete information, go to
http://nccs.gov/news/workshops/fy07scalingworkshop/

Deadline for Non-U.S. Citizens: **June 22**

Office of Science U.S. Department of Energy

Oak Ridge National Laboratory

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